

Date: Thursday, 4/5/2007 11:59:25 AM
User: Kim Johnston

Process Sheet

Customer	CU-DAR001 Dart Helicopters Services		Drawing Name	BOLT		
Job Number	31699					
Estimate Number	10372					
P.O. Number	N/A		Part Number	D312121		
This Issue	4/5/2007		S.O. No.	N/A		
Prsh Rev.	NC		Drawing Number	D3121 REV D		
First Issue	N/A		Project Number	N/A		
Previous Run	31117		Drawing Revision	D		
Written By			Material	N/A		
Checked & Approved By			Due Date	4/30/2007		
Comment	Est. A 04.02.09 New issue KJ/DS		Qty:	24	Um:	Each

Additional Product

Job Number		
Job Seq. #:	Machine Or Operation:	Description :
1.0	M303H0500	303 HEX BAR
		
Comment: Qty.: 0.0417 f(s)/Unit Total : 1.0008 f(s) 303 HEX BAR Material: AISI 303 SS 1/2" Hex Bar (M303H0.500) Batch: M102286 MS 07/04/23		
2.0	HARDINGE	HARDINGE CNC LATHE SMALL
		
Comment: HARDINGE CNC LATHE SMALL 1-Turn D3121-21 2-Identify as D3121-21 3-Deburr break all sharp edges 0.005" to 0.010" MS 07/04/23 24		
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
		
Comment: INSPECT PARTS AS THEY COME OFF MACHINE MS 07/04/23 24		
4.0	QC8	SECOND CHECK
		
Comment: SECOND CHECK MS 07/04/23 24		
5.0	PACKAGING 1	PACKAGING RESOURCE #1
		
Comment: PACKAGING RESOURCE #1 Identify and Stock Location: _____ Signature: 07/04/24 (24)		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: Date: 07/04/24
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 4/5/2007 11:59:25 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BOLT

Job Number: 31699

Part Number: D312121

Job Number:



Seq. #: Machine Or Operation:

Description :

6.0 QC21

FINAL INSPECTION/W/O RELEASE



24

Comment: FINAL INSPECTION/W/O RELEASE

APM/10/04

Job Completion



U 07.06.04

QC21

QC21</

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	31699
Description: Bolt	Part Number:	D3121-21
Inspection Dwg: D3121 Rev: D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Audited by:		Prototype Approval:	N/A
Date:		Date:	N/A

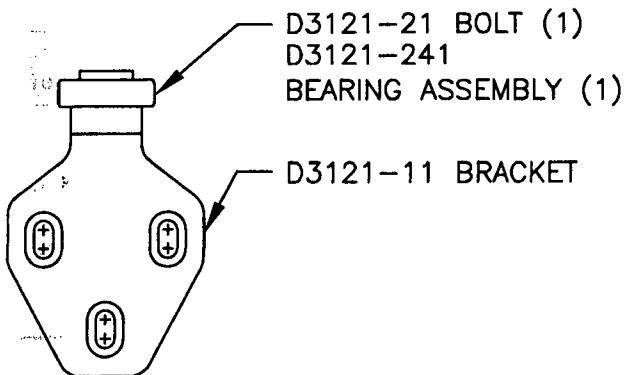
Rev	Date	Change	Revised by	Approved
A	04.02.27	New Issue	KJ/RF	
B	06.03.09	Dwg Rev. updated	KJ/JLM	
C	06.06.14	Dwg Rev. updated	KJ/JLM	<i>[Signature]</i>

DART

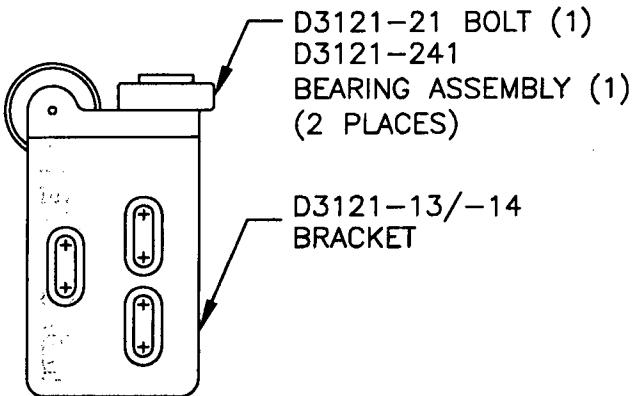
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CHECKED	APPROVED	DRAWING NO. D3121 REV. D SHEET 1 OF 10
DATE		TITLE SCALE
06.05.17		BRACKET ASSEMBLY 1:2
A	02.04.15	NEW ISSUE
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
C	04.02.17	ADD CLEARANCE; USE -241 BEARING
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000

RELEASED

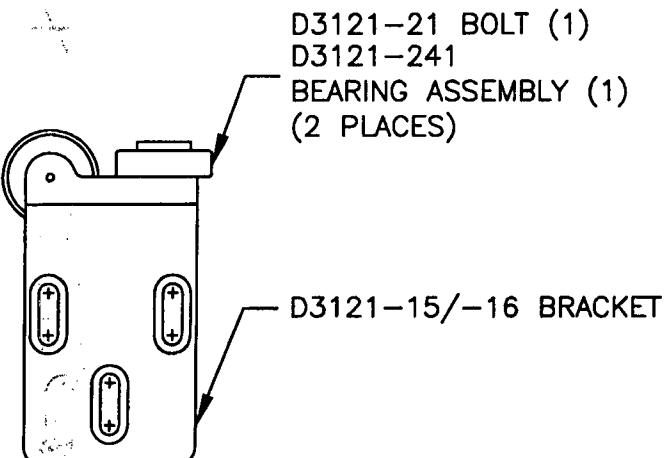
06.06.02



D3121-041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-33)



**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-37/-38)



**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-35/-36)

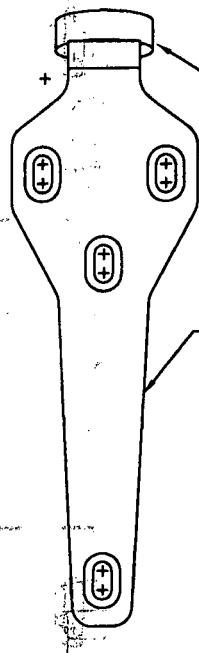
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		D3121	SHEET 2 OF 10
DATE		TITLE	SCALE
06.05.17		BRACKET ASSEMBLY	1:2



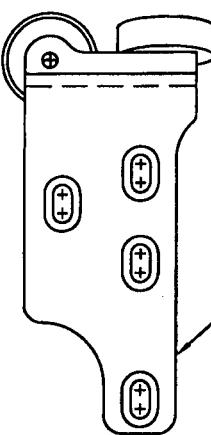
D3121-21 BOLT (1)
D3121-241
BEARING ASSEMBLY (1)

D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

D3121-111 BRACKET

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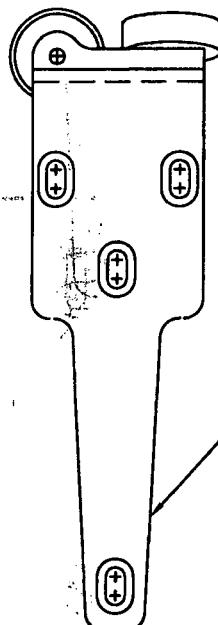
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D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

D3121-113/-114 BRACKET

**D3121-143 (SHOWN) / D3121-144 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

D3121-115/-116
BRACKET

**D3121-145 (SHOWN) / D3121-146 (OPPOSITE)
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-05Y-06)

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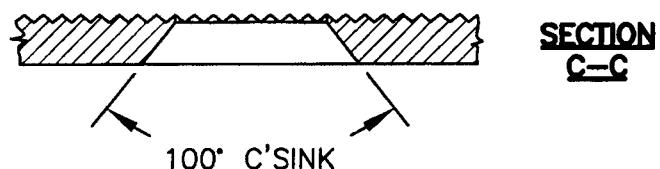
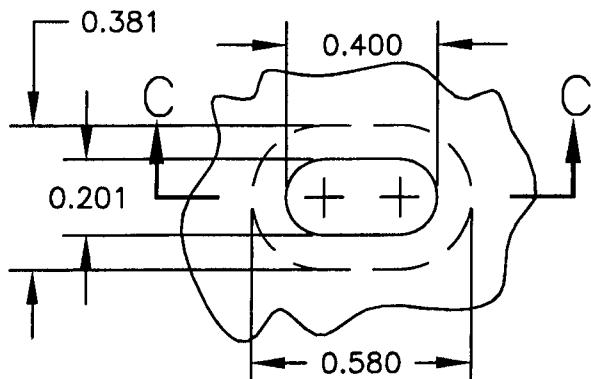
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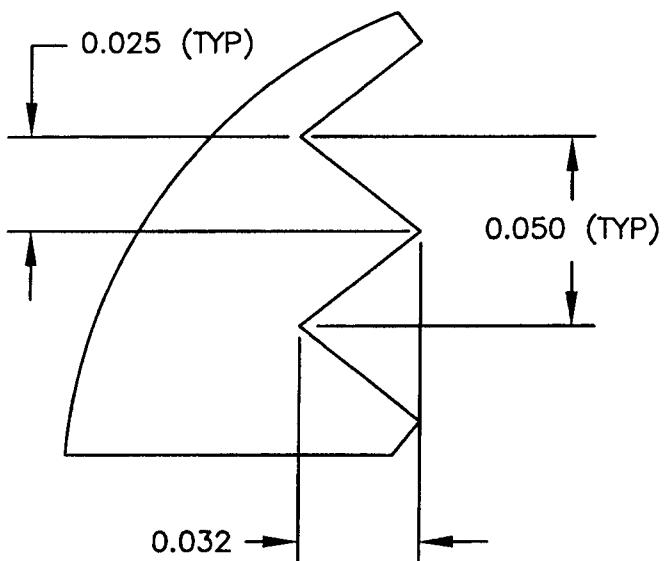
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		D3121	SHEET 3 OF 10
DATE	TITLE	SCALE	1:1
06.05.17	BRACKET ASSEMBLY		

DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED



DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



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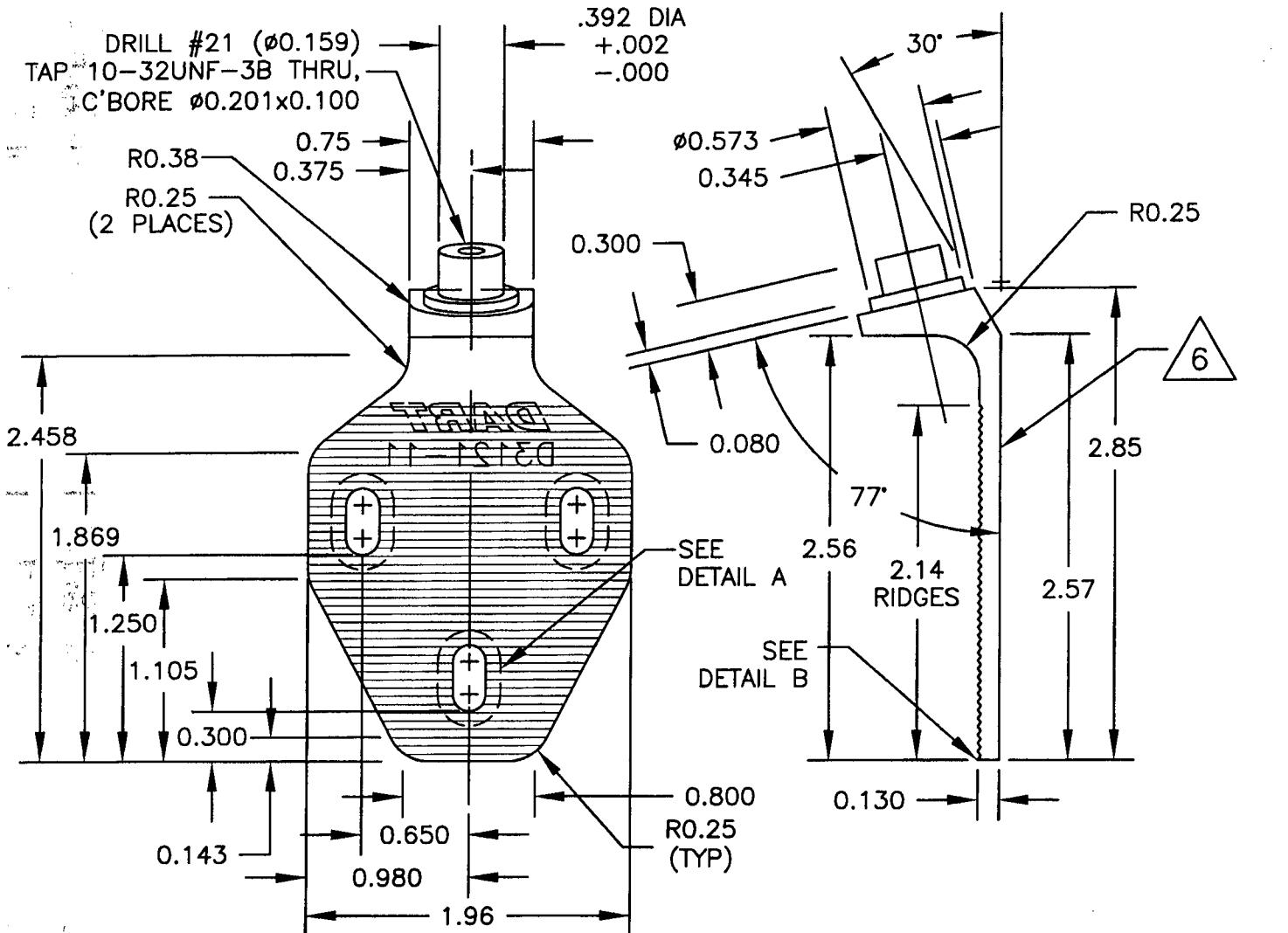
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J.M.	M.W.	D3121	SHEET 4 OF 10
DATE	TITLE	SCALE	1:1
06.05.17	BRACKET ASSEMBLY		

**D3121-11 BRACKET**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

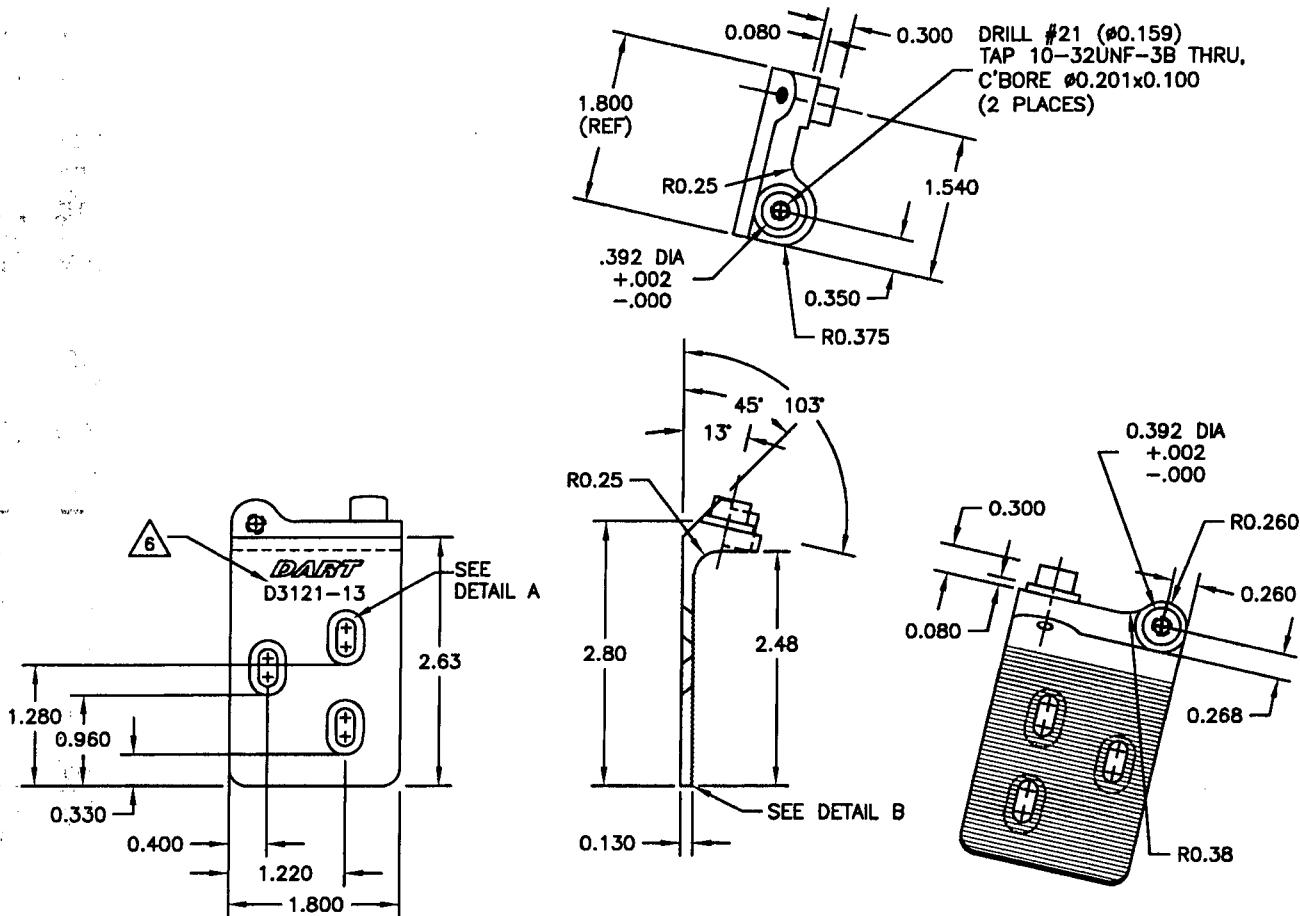
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DATE	06.05.17	SHEET 5 OF 10 TITLE: BRACKET ASSEMBLY SCALE: 1:2



D3121-13 BRACKET (SHOWN)
D3121-14 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

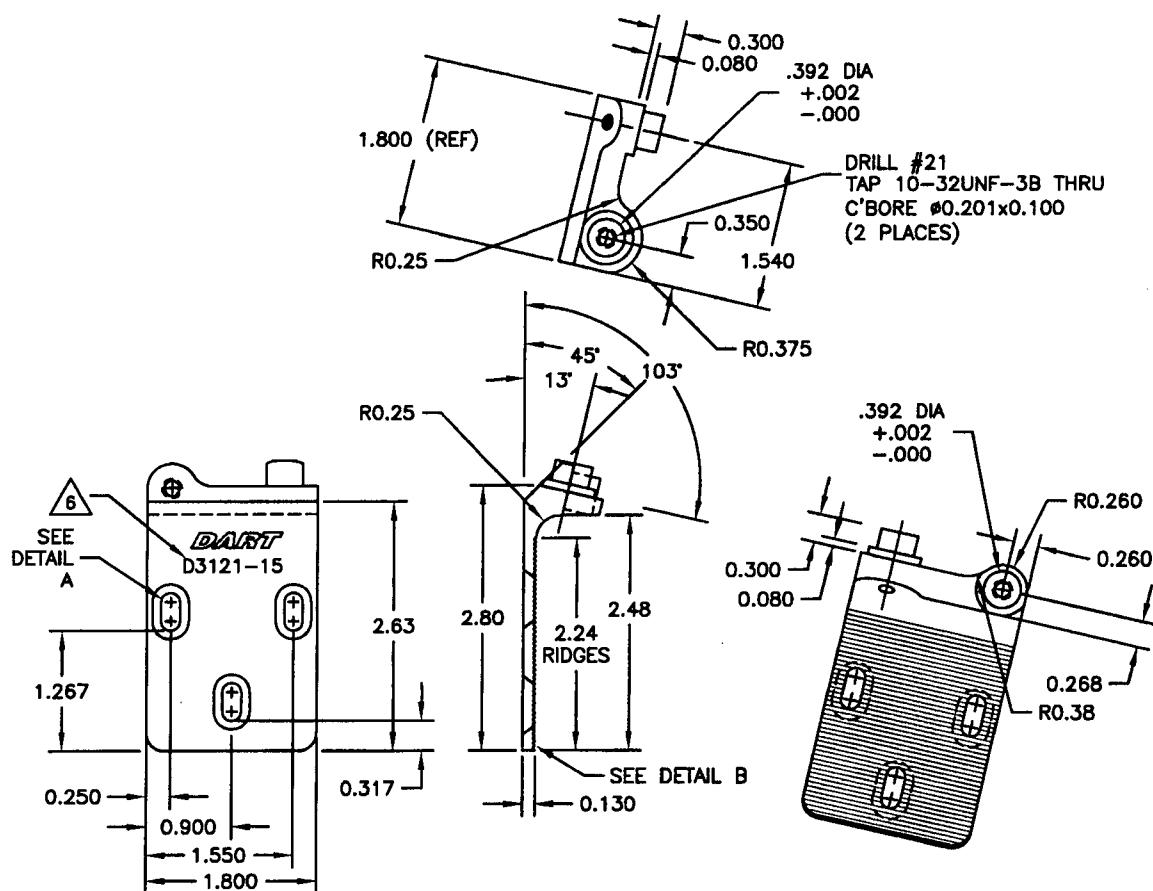
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DATE		REV. D SHEET 6 OF 10 TITLE SCALE 1:12
06.05.17		BRACKET ASSEMBLY

**D3121-15 BRACKET (SHOWN)****D3121-16 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

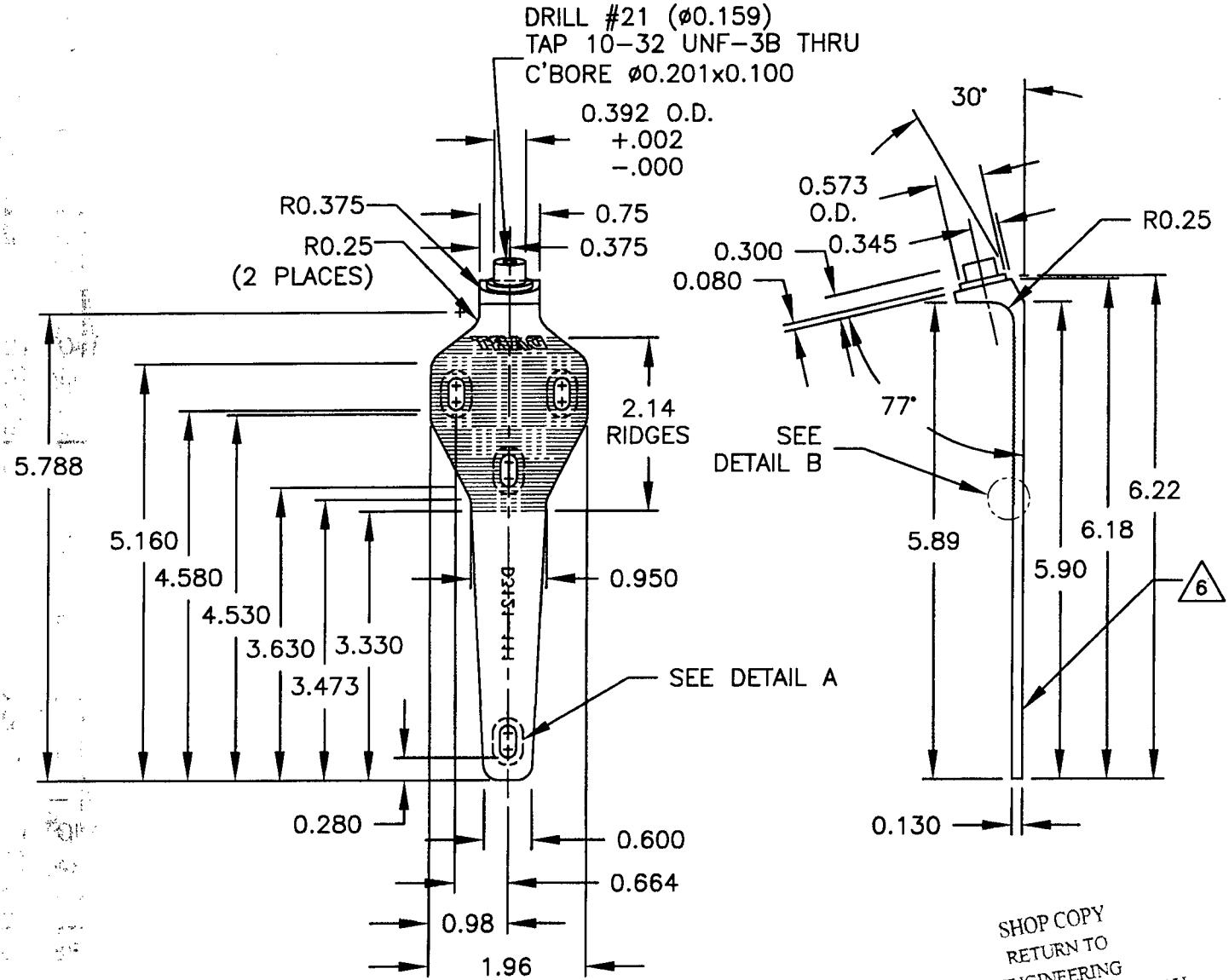
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DATE 06.05.17	TITLE BRACKET ASSEMBLY	SCALE 1:2	



D3121-111 BRACKET

- 1) REPLACES PREMIER P/N B32-23001-11
 - 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
 - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) ALL DIMENSIONS ARE IN INCHES
 - 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
 - 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
 - 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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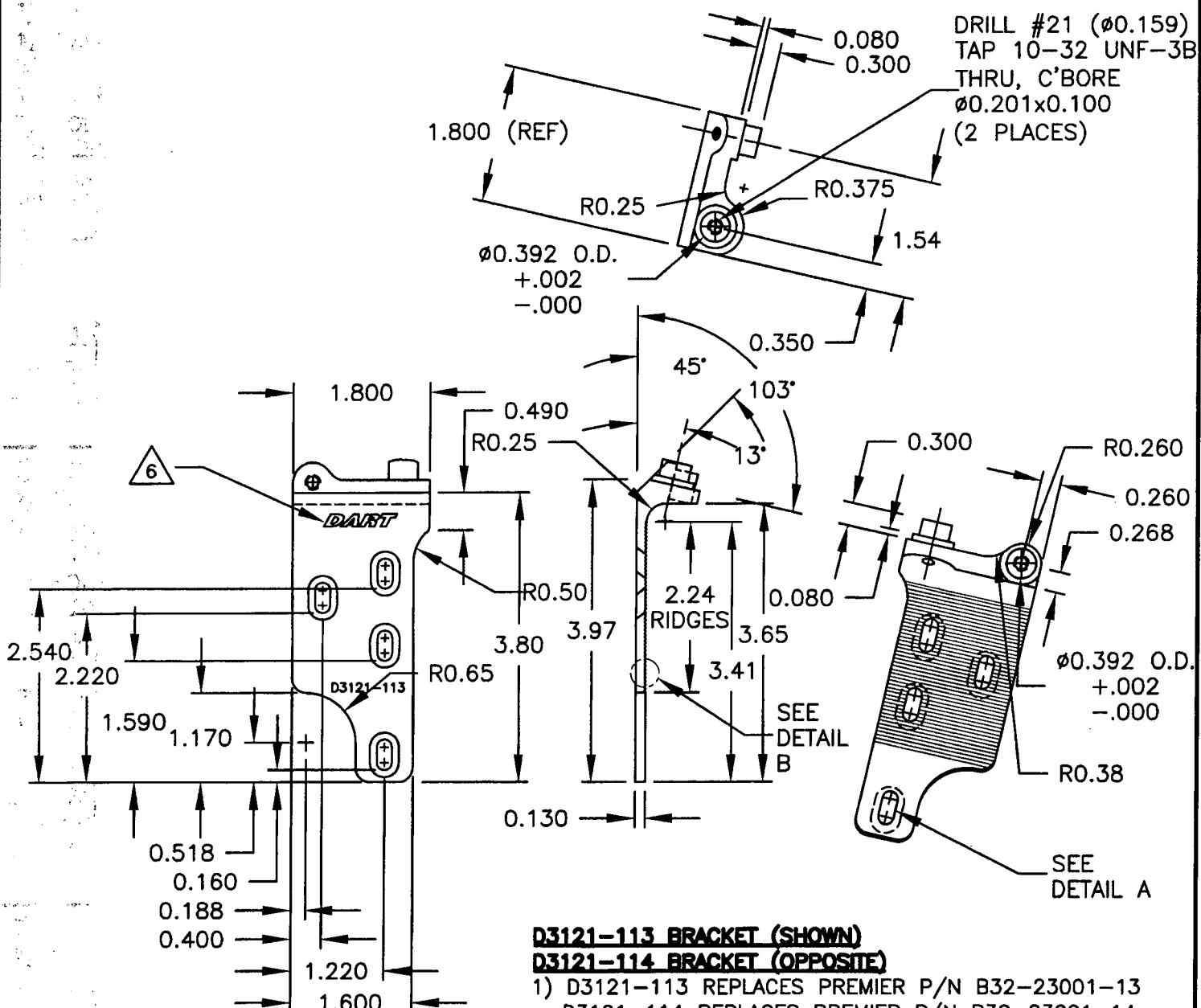
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DATE 06.05.17	TITLE BRACKET ASSEMBLY	SCALE 1:2	



**D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)**

- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13
D3121-114 REPLACES PREMIER P/N B32-23001-14
 - 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
 - 3) TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED
 - 4) ALL DIMENSIONS ARE IN INCHES
 - 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
 - 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
 - 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

RELEASED

06.06.02

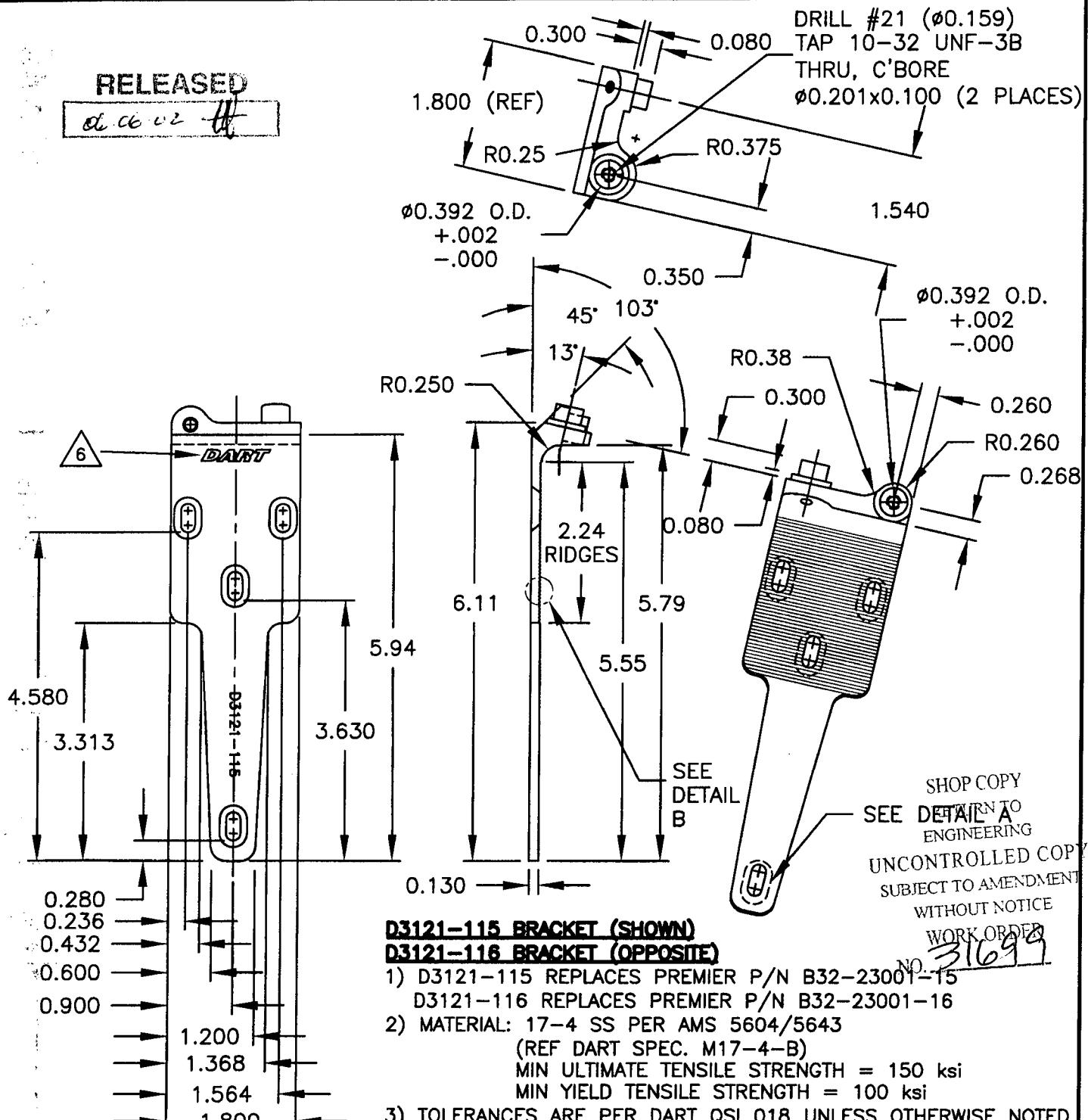
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DATE 04.02.18		SHEET 9 OF 10 SCALE 1:2

RELEASED
06.06.02**D3121-115 BRACKET (SHOWN)
D3121-116 BRACKET (OPPOSITE)**

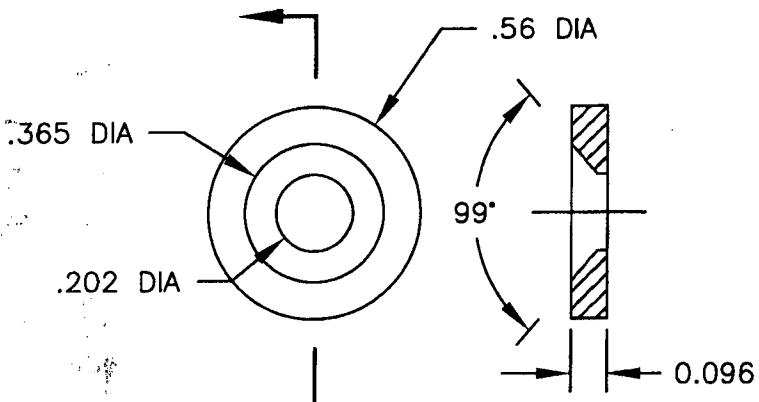
- 1) D3121-115 REPLACES PREMIER P/N B32-23001-15
D3121-116 REPLACES PREMIER P/N B32-23001-16
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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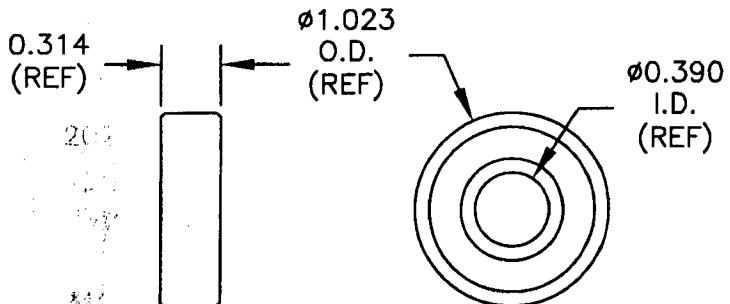
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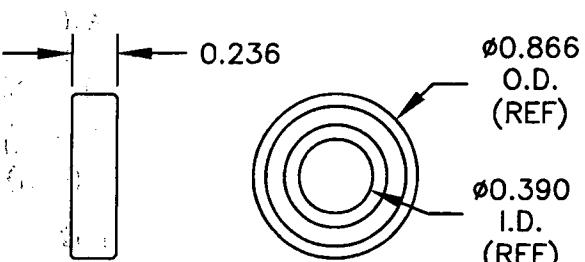
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DATE		D3121	SHEET 10 OF 10
06.05.17		TITLE	SCALE
		BRACKET ASSEMBLY	1:1

**D3121-17 WASHER (SCALE 2:1)**

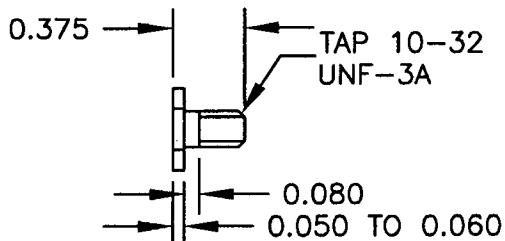
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

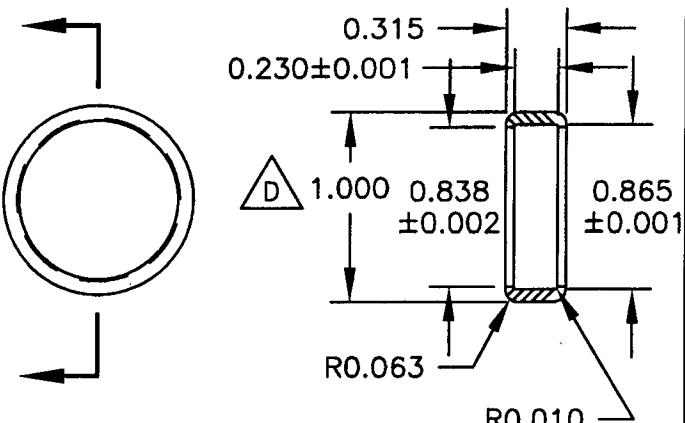
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z
OR KML P/N 6900-2Z
- 2) ALL DIMENSIONS ARE IN INCHES

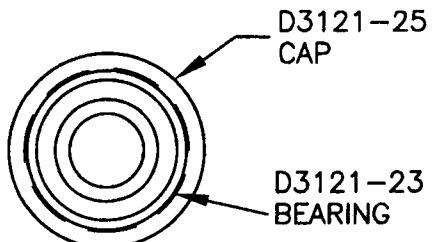
**D3121-21 BOLT (SCALE 1:1)**

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

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**D3121-241 BEARING ASSEMBLY (SCALE 1:1)**